

CLAIMS

What is claimed is:

1. A method of folding an air bag for stowing in an air bag module, comprising:
 - a. spreading out an empty air bag on a surface between first and second gathering elements, wherein said first and second gathering elements are opposed to one another;
 - 5 b. moving said first and second gathering elements towards a center and towards one another so as to gather said air bag together between said first and second gathering elements;
 - c. adapting said first gathering element so as to limit a first height of a first edge portion of the air bag proximate to said first gathering element relative to said surface to less than a first threshold during at least a portion of the operation of
10 moving said first and second gathering elements; and
 - d. adapting said second gathering element so as to limit a second height of a second edge portion of said air bag proximate to said second gathering element relative to said surface to less than a second threshold during at least a portion of the operation
15 of moving said first and second gathering elements, wherein said first and second thresholds are each less than a third height of said air bag proximate to said center after the operation of moving said first and second gathering elements.
2. A method of folding an air bag for stowing in an air bag module as recited in claim 1, wherein at least one of the operations of adapting said first gathering element and adapting said second gathering element comprises at least one of extending a first slider from said first gathering element towards said center and extending a second slider from
5 said second gathering element towards said center, and a distance of said first slider from said surface is equal to said first threshold and a distance of said second slider from said surface is equal to said second threshold.
3. A method of folding an air bag for stowing in an air bag module as recited in claim 2, wherein at least one of the operations of extending said first slider and extending said second slider is by an positioner responsive to a controller.
4. A method of folding an air bag for stowing in an air bag module as recited in claim 2, wherein at least one of the operations of extending said first slider and extending said second slider is responsive to at least one of a first position of said first gathering

element on said surface and a second position of said second gathering element on said surface.

5. A method of folding an air bag for stowing in an air bag module as recited in claim 1, wherein at least one of the operations of adapting said first gathering element and adapting said second gathering element comprises at least one of providing for holding a first edge of said air bag against said first gathering element proximate to said surface and providing for holding a second edge of said air bag against said second gathering element proximate to said surface, further comprising at least one of holding said first edge of said air bag against said first gathering element proximate to said surface and holding said second edge of said air bag against said second gathering element proximate to said surface.
6. A method of folding an air bag for stowing in an air bag module as recited in claim 1, wherein at least one of the operations of adapting said first gathering element and adapting said second gathering element comprises at least one of shaping a first face of said first gathering element so as to urge said first edge portion of said air bag towards said surface responsive to the operation of moving said first and second gathering elements, and shaping a second face of said second gathering element so as to urge said second edge portion of said air bag towards said surface responsive to the operation of moving said first and second gathering elements.
7. A method of folding an air bag for stowing in an air bag module as recited in claim 1, further comprising moving third and fourth gathering elements towards a center and towards one another so as to gather said air bag together between said third and fourth gathering elements, wherein said first and second gathering elements are operative in a first direction, said third and fourth gathering elements are operative in a second direction, and said first and second directions are different from one another.
8. A method of folding an air bag for stowing in an air bag module as recited in claim 7, wherein said first and second directions are substantially orthogonal with respect to one another.
9. A method of folding an air bag for stowing in an air bag module as recited in claim 7, further comprising:
 - a. adapting said third gathering element so as to limit a third height of a third edge portion of the air bag proximate to said third gathering element relative to said

- 5 surface to less than a third threshold during at least a portion of the operation of moving said third and fourth gathering elements; and
- b. adapting said fourth gathering element so as to limit a fourth height of a fourth edge portion of said air bag proximate to said fourth gathering element relative to said surface to less than a fourth threshold during at least a portion of the operation of moving said third and fourth gathering elements, wherein said third and fourth thresholds are each less than said third height of said air bag proximate to said center after the operation of moving said third and fourth gathering elements.
- 10
10. A method of folding an air bag for stowing in an air bag module as recited in claim 1, further comprising stowing said air bag in an air bag module after said air bag is gathered responsive to the operation of moving said first and second gathering elements.
11. An apparatus for folding an air bag for stowing in an air bag module, comprising:
- a. a first surface adapted to support the air bag;
- b. first and second gathering elements, wherein said first and second gathering elements are located over said first surface and are adapted to move with respect thereto, said first gathering element comprises a first face, said second gathering element comprises a second face, said first and second faces are opposed to one another, and said first and second faces are adapted to engage opposing edges of said air bag; and
- 5
- c. at least one second surface adapted to cooperate with at least one of said first and second gathering elements, wherein said at least one second surface is adapted to extend from at least one of said first and second faces so as to limit a height of at least one corresponding edge portion of said air bag proximate to said at least one of said first and second faces when said air bag is gathered between said first and second gathering elements by moving said first and second gathering elements towards one another over said first surface.
- 10
12. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 11, wherein said at least one second surface is on at least one slider adapted to cooperate with said at least one of said first and second gathering elements, and said at least one slider is adapted to engage with a corresponding at least one slot in said at least one of said first and second gathering elements.
- 15
- 5

13. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 12, wherein said at least one slider comprises a stop adapted to limit a travel of said at least one slider within said at least one slot.
14. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 12, further comprising at least one positioner adapted to control a position of a corresponding at least one slider, wherein said position of said at least one slider with respect to said at least one of said first and second gathering elements is controlled by said positioner responsive a position of said at least one of said first and second gathering elements with respect to said first surface.
15. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 11, wherein said at least one second surface is either coincident with or operatively coupled to said first or second face, and said at least said at least one second surface is sloped towards the opposing gathering element upwards from said first surface.
16. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 11, further comprising third and fourth gathering elements, wherein said third and fourth gathering elements are located over said first surface and are adapted to move with respect thereto, said third gathering element comprises a third face, said fourth gathering element comprises a fourth face, said third and fourth faces are opposed to one another, said third and fourth faces are adapted to engage opposing edges of said air bag, said first and second gathering elements are operative in a first direction, said third and fourth gathering elements are operative in a second direction, and said first and second directions are different from one another.
17. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 16, wherein said first and second directions are substantially orthogonal with respect to one another.
18. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 17, further comprising at least one third surface adapted to cooperate with at least one of said third and fourth gathering elements, wherein said at least one third surface is adapted to extend from at least one of said third and fourth faces so as to limit a height of at least one corresponding edge portion of said air bag proximate to said at least one of said third and fourth faces when said air bag is gathered between said third and fourth gathering elements by moving said third and fourth gathering elements towards one another over said first surface.

19. An apparatus for folding an air bag for stowing in an air bag module, comprising:
- a. a first surface adapted to support the air bag;
 - b. first and second gathering elements, wherein said first and second gathering elements are located over said first surface and are adapted to move with respect thereto, said first gathering element comprises a first face, said second gathering element comprises a second face, said first and second faces are opposed to one another, and said first and second faces are adapted to engage opposing edges of said air bag; and
 - c. at least one holder adapted to cooperate with at least one of said first and second gathering elements, wherein said at least one holder is adapted to extend from at least one of said first and second faces so as to hold at least one corresponding edge portion of said air bag proximate to said at least one of said first and second faces when said air bag is gathered between said first and second gathering elements by moving said first and second gathering elements towards one another over said first surface.
20. An apparatus for folding an air bag for stowing in an air bag module as recited in claim 19, wherein said at least one holder comprises a clamp or a pocket.